Inconsistant, not likely to happen often

Inv. Imagine flipping a fair coin

S. A H, T, T, H, T, H, H, H, T, T

S. B H, T, H, H, H, T, H, H, T, T

Longest A R		2ND Longest A B	
1		1	III
2		2	IIII
3	H II	3	T
4	II	4	
5+	III	5+	

# Heads	5A	5B
0		
1		
2		1
3		
4		
5	𝍸 |	
6		111
7		
8		
9		
10		

Integer

randInt(low, high, # in list)

0 1 coin flip

1 6 roll die

Ex A MATH PRB randInt(1, 6, 30) ⅛

$\xrightarrow[\text{STO}]{} L_1$

$\xrightarrow[\text{STO}]{} L_2$

Histogram – columns – bins – all the same width

small

big small

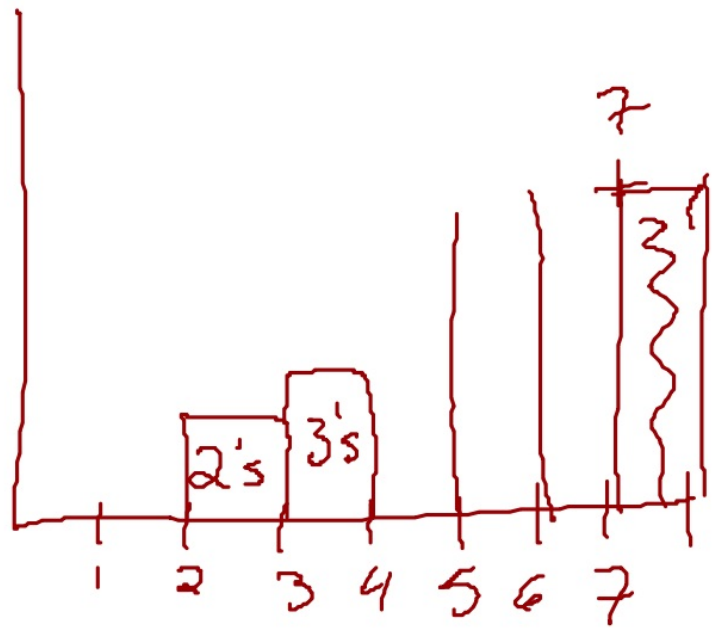
big

1/19

$L_1 + L_2 \rightarrow L_3$

2nd StatPlot 1<enter> ON<enter> Type:(hist)<enter> Xlist:L_3

Window Xmin=0 Xmax=14 Xscl=1 Ymin=0 Ymax=75 Yscl=5



6 11

7 111

8 11

2 1+1

3 2+1, 1+2

4 2+2, 3+1, 1+3

5 4+1, 1+4, 2+3, 3+2

6 5+1, 1+5, 4+2, 2+4, 3+3

7 6+1, 1+6, 5+2, 2+5, 4+3, 3+4

8 3+5, 5+3, 4+4, 6+2, 2+6

9 3+6, 6+3, 4+5, 5+4

10 6+4, 4+6, 5+5

11 5+6, 6+5

12 6+6

outcomes — results

event - set of desired outcomes

experimental probabilities —
probabilities based on observations
of an actual experiment

theoretical probabilities —
without experimenting, how things should
turn out, all things being "fair"

Experimental Probability

$$P(E) = \frac{\text{number of occurances of an event}}{\text{number of trials}}$$

Theoretical Probability

$$P(E) = \frac{\text{number of ways an event can occur}}{\text{number of equally likely outcomes}}$$

0 $\frac{1}{2}$ 1 2 3 4 5 6 7

5

4 4

3 3 3

2 2 2 2

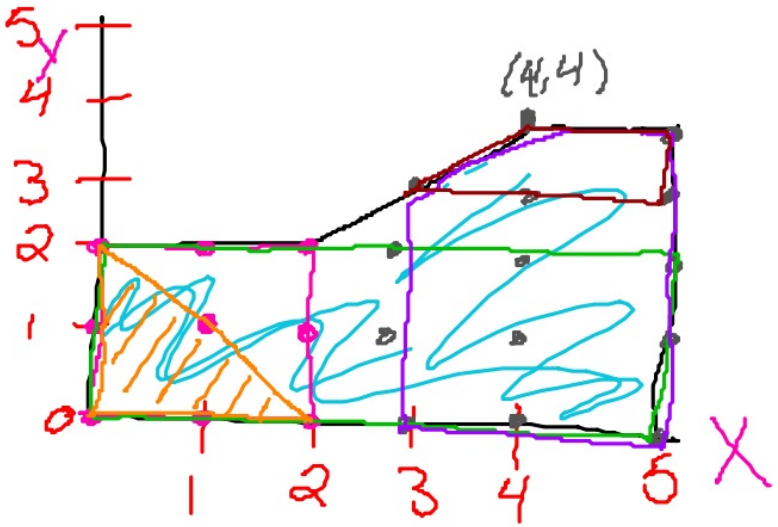
1 1 1 1 1

0 0 0 0 0 0

$P(\leq 5) = \frac{21}{49} = 0.429 \sim 43\%$

HW pp. 661-663
#1, 3-5, 10

3)



a $\frac{4}{14}$

b $\frac{10}{14}$

c $\frac{7.5}{14}$

d $\frac{1.5}{14}$

e $\frac{2}{14}$